



# THE HIGGS FACTORY STUDY: PART II

## REPORT FOR SNOWMASS

Neutrino Factory and Muon Collider Collaboration  
Meeting  
May 2-3, 2001

Gail G. Hanson  
Indiana University

- Workshop at UCLA February 28 – March 1
- Outline of Report

# HIGGS FACTORY WORKSHOP

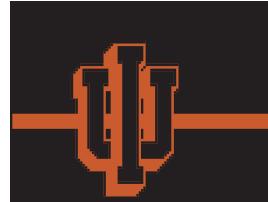
## UCLA FACULTY CENTER



**UCLA**

Feb. 28-March 1, 2001

Organizers:  
David Cline, UCLA  
Gail Hanson, I.U.



Indiana University

## "FROM THE NEUTRINO FACTORY TO THE HIGGS FACTORY: MUONS ALL THE WAY"

### TOPICS

1. Update of LEP2 Higgs Search Results
2. Theory and Higgs Physics
3. Neutrino Factory Studies I & II
4. Proton Driver for Higgs Factory Single Bunch Operation
5. Collection System and Pre Cooling
6. Final Cooling Schemes: Emittance Exchange
7. Use of Neutrino Factory Acceleration System for Higgs Factory
8. Higgs Factory Storage Ring
9. Parameters for Higgs Factory

! For information about local accommodation, contact Kevin Lee,  
[klee@physics.ucla.edu](mailto:klee@physics.ucla.edu); or Sylvia Vartan, [sylvia@physics.ucla.edu](mailto:sylvia@physics.ucla.edu).

## Higgs Factory Study for Snowmass 2001

(<http://www.physics.ucla.edu/snowmass>  
user id “higgs”  
password “factory3”)

Overview and Summary(D. Cline, G. Hanson)

Chapter 1. Higgs Physics (V. Barger, M. Berger,  
J. Gunion)

×10 luminosity (D. Neuffer)

Chapter 2. Neutrino Factory Parameters from  
Feasibility Studies I and II (TBD – D. Cline,  
G. Hanson)

Chapter 3. Reconfiguration of Proton Driver and  
Target for Single Bunch Operation (W. Chou,  
T. Roser → S.Y. Zhang?, C. Ankenbrandt?)

Chapter 4. Targetry and Muon Collection  
(N. Mokhov, V. Balbekov, D. Neuffer)

Chapter 5. Precooling, Final Cooling/Emittance  
Exchange and Bunching (R. Fernow,  
D. Neuffer, V. Balbekov, Y. Fukui)

Chapter 6. Using the Neutrino Factory  
Acceleration System (D. Summers,  
S. Berg, JLab person?)

Chapter 7. Higgs Factory Storage Ring  
(A. Garren, C. Johnstone)

**Chapter 8. Summary of Parameters (Y. Fukui  
-- D. Cline, G. Hanson)**

**Chapter 9. Cost Drivers for the Conversion of the  
Neutrino Factory to the Higgs Factory  
(M. Zisman)**

Lots to do!